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| EMC Corporation c/o Ballard Spahr Andrews & Ingersoll, LLP 999 Peachtree Street Suite 1000 Atlanta, GA 32309 | | | EXAMINER | |
| | | | TIV, BACKHEAN | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/944,288

Applicant(s)

FOLEY ET AL.

Examiner

BACKHEAN TIV

Art Unit

2451

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,5,6,11-16 and 22-29 is/are pending in the application.
- 4a) Of the above claim(s) 1,3,4,7-10,17-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,5,6,11-16 and 22-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

Detailed Action

Claims 2,5,6,11-16,22-29 are pending in this application. Claims 1,3,4,7-10,17-21 have been cancelled in the Amendment filed on 12/5/06. Claims 28,29 are newly added claims. This is a response to the Amendment/Remarks filed on 3/20/09. This action is made **FINAL**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5,12-15,22-24,26,27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,834,299 issued to Hamilton, II et al.(Hamilton) in view of US Publication 2001/0047460 issued to Kobayashi et al.(Kobayashi) in further view of US Patent 7,082,462 issued to Matsunami et al.(Matsunami) in further view of US Patent 6,167,494 issued to Cheston et al.(Cheston).

As per claim 12, Hamilton teaches a system for automatically configuring a diskless host computer(Abstract), comprising: at least one diskless host computer that automatically boots an operating system as a result of being connected to the network(Fig.5, col.5, lines 32-67); a storage system on which are stored a plurality of host configurations, each configuration including an operating system(Fig.5, col.6, lines 1-67); looking up a configuration corresponding to the received identifier and directing

the switch to provide the diskless host computer access to a storage device on which the operating system identified in the configuration is stored(Abstract, col.7, lines 1-67).

Hamilton however does not explicitly teach diskless host computer being physically connected to a network; a switch coupled to each diskless host computer and having a plurality of ports, each port coupled to the storage system; and a control station computer monitoring for receipt of an identifier transmitted by the diskless host computer to the switch, accessing a database comprising a correspondence between an identifier of each of a plurality of diskless host computers and a configuration associated with the corresponding diskless host computer in order to look up a configuration corresponding to the received identifier transmitted by the diskless host computer; wherein the storage system is configured to copy the operating system to the storage device, to which the switch provides the diskless host computer with access, from another device of the storage system, and another device configured to maintain an unaltered copy of the operating system.

Kobayashi teaches a switch coupled to each diskless host computer and having a plurality of ports, each port coupled to the storage system(Fig.1); and a control station computer monitoring for receipt of an identifier transmitted by the diskless host computer to the switch(Fig.1, para.0024,026).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Hamilton to include a switch coupled to each diskless host computer and having a plurality of ports, each port coupled to the storage system; and a control station computer monitoring for receipt of an identifier transmitted

by the diskless host computer to the switch as taught by Kobayashi in order to remote copy information(Kobayashi, para.0002).

One ordinary skill in the art would have been motivated to combine the teachings of Hamilton and Kobayashi in order to remote copy information(Kobayashi, para.0002).

Hamilton in view of Kobayashi, does not explicitly teach diskless host computer being physically connected to a network; accessing a database comprising a correspondence between an identifier of each of a plurality of diskless host computers and a configuration associated with the corresponding diskless host computer in order to look up a configuration corresponding to the received identifier transmitted by the diskless host computer; wherein the storage system is configured to copy the operating system to the storage device, to which the switch provides the diskless host computer with access, from another device of the storage system, and another device configured to maintain an unaltered copy of the operating system.

Matsunami teaches diskless host computer being physically connected to a network(Fgi.6); accessing a database comprising a correspondence between an identifier of each of a plurality of diskless host computers and a configuration associated with the corresponding diskless host computer in order to look up a configuration corresponding to the received identifier transmitted by the diskless host computer(Figs.8-14, col.4, lines 10-19, col.8, lines 15-40; teaches looking up OS from LU to boot up a PC).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Hamilton in view of Kobayashi to include

accessing a database comprising a correspondence between an identifier of each of a plurality of diskless host computers likely to be used in the system and a configuration associated with the corresponding diskless host computer in order to look looking up a configuration corresponding to the received identifier as taught by Matsunami in order to boot up an OS from a storage system(Matsunami, col.4, lines 10-19).

One ordinary skill in the art would have been motivated to combine the teachings of Hamilton, Kobayashi, and Matsunami in order to boot up an OS from a storage system(Matsunami, col.4, lines 10-19).

Hamilton in view of Kobayashi in further view of Matsunami does not explicitly teach wherein the storage system is configured to copy the operating system to the storage device, to which the switch provides the diskless host computer with access, from another device of the storage system, and another device configured to maintain an unaltered copy of the operating system.

Cheston teaches storing a "known good" copy of an OS (Abstract, col.5, lines 15-29). The "known good" copy of an OS is considered to be the same as the "gold" copies as recited in the applicant's specification, page.10.

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Hamilton in view of Kobayashi in further view of Matsunami to include copying and storing a "known good" copy of an OS as taught by Cheston in order to recover from operating system corruption(Cheston, col.2, lines 35-38).

One ordinary skill in the art would have been motivated to combine the teachings of Hamilton, Kobayashi, Matsunami, and Cheston in order to recover from operating system corruption(Cheston, col.2, lines 35-38).

As per claim 22, Hamilton teaches a method for automatically booting a diskless host computer upon being connected to a Fibre Channel network(Abstract), comprising: looking up a configuration corresponding to the received identifier, wherein looking up a configuration corresponding to an identifier further comprises(Fig.5, col.5, lines 32-col.6, lines 67); querying by a control station computer the Fibre Channel switch for the WWN received from the diskless host computer; (col.5, lines 31-67); providing the diskless host computer access to a storage device on which the operating system is stored(Fig.5, col.5, lines 32-col.6, lines 67); and the diskless host computer booting from the operating system stored on the storage device in response to being connected to network(Fig.5, col.5, lines 32-col.6, lines 67).

Hamilton however does not explicitly teach physically connecting the diskless host computer to the network; receiving at a Fibre Channel switch a World Wide Name (WWN) from the diskless host computer in accordance with a Fibre Channel log-in protocol; accessing, by the control station computer, a database comprising a correspondence between a WWN of each of a plurality of diskless host computers and a configuration associated with the corresponding diskless host computer in order to look up the configuration corresponding to the obtained, each WWN having a corresponding configuration, said configuration identifying an operating system associated with the diskless host computer; copying the operating system identified in

the configuration to a storage device from another storage device, said another storage device configured to maintain an unaltered copy of the operating system.

Kobayashi teaches receiving at a Fibre Channel switch a World Wide Name (WWN) from the diskless host computer in accordance with a Fibre Channel log-in protocol (Fig.1, para.0024,026).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Hamilton to include receiving at a Fibre Channel switch a World Wide Name (WWN) from the diskless host computer in accordance with a Fibre Channel log-in protocol as taught by Kobayashi in order to remote copy information(Kobayashi, para.0002).

One ordinary skill in the art would have been motivated to combine the teachings of Hamilton and Kobayashi in order to remote copy information(Kobayashi, para.0002).

Matsunami teaches physically connecting the diskless host computer to the network; accessing, by the control station computer, a database comprising a correspondence between a WWN of each of a plurality of diskless host computers and a configuration associated with the corresponding diskless host computer in order to look up the configuration corresponding to the obtained, each WWN having a corresponding configuration, said configuration identifying an operating system associated with the diskless host computer(Figs.8-14, col.4, lines 10-19, col.8, lines 15-40).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Hamilton in view of Kobayashi to include

accessing a database comprising a correspondence between an identifier of each of a plurality of diskless host computers likely to be used in the system and a configuration associated with the corresponding diskless host computer in order to look looking up a configuration corresponding to the received identifier as taught by Matsunami in order to boot up an OS from a storage system(Matsunami, col.4, lines 10-19).

One ordinary skill in the art would have been motivated to combine the teachings of Hamilton, Kobayashi, and Matsunami in order to boot up an OS from a storage system(Matsunami, col.4, lines 10-19).

Hamilton in view of Kobayashi in further view of Matsunami does not explicitly teach copying the operating system identified in the configuration to a storage device from another storage device, said another storage device configured to maintain an unaltered copy of the operating system and booting from booting from the operating system copied.

Cheston teaches storing a "known good" copy of an OS and booting from up with the "known good" copy of the OS(Abstract, col.5, lines 15-29). The "known good" copy of an OS is considered to be the same as the "gold" copies as recited in the applicant's specification, page.10.

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Hamilton in view of Kobayashi in further view of Matsunami to include copying, storing, and booting up a "known good" copy of an OS as taught by Cheston in order to recover from operating system corruption(Cheston, col.2, lines 35-38).

One ordinary skill in the art would have been motivated to combine the teachings of Hamilton, Kobayashi, Matsunami, and Cheston in order to recover from operating system corruption(Cheston, col.2, lines 35-38).

As per claim 5, the method claimed in claim 22, wherein the control station queries the Fibre Channel switch in response to a notification received from the host via an Internet Protocol (IP) network(Hamilton, Abstract, Fig.5, Kobayashi, para.0024). Motivation to combine set forth in claim 22.

As per claim13, the system claimed in claim 12, wherein the storage system copies the operating system to the storage device from another device of the storage system(Hamilton, Abstract, Fig.5).

As per claim 14, the system claimed in claim 12, wherein the identifier is a World Wide Name (WWN) received from the host in accordance with a Fibre Channel log-in protocol, and wherein each WWN corresponds to a configuration(Hamilton, Abstract, col.5, line 32-67, Fig.1, para.0024,026). Motivation to combine set forth in claim 12.

As per claim 15, system claimed in claim 14, wherein the a control station computer queries the Fibre, Channel switch for the WWN and looks up the configuration in a database in response to the WWN(Hamilton, Fig.5, col.5, lines 31-col.6, lines 67).

As per claim 24, the method claimed in claim 23, wherein the network comprises an IP network(Kobayashi, para.0024). Motivation to combine set forth in claim 22.

As per claim 26, the method claimed in claim 23, wherein the network comprises a Fibre Channel network(Kobayashi, Abstract). Motivation to combine set forth in claim 22.

As per claim 27, the method claimed in claim 26, wherein the identifier is unique to an adapter used to connect the diskless computer to the network(Hamilton, col.5, lines 31-col.6, line 67).

As per claim 23, do not teach or further define over the limitations in claims 12,22. Therefore claim 23 is rejected for the same reasons set forth above.

Claims 2,28,29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,834,299 issued to Hamilton, II et al.(Hamilton) in view of US Publication 2001/0047460 issued to Kobayashi et al.(Kobayashi) in further view of US Patent 7,082,462 issued to Matsunami et al.(Matsunami) in further view of US Patent 6,167,494 issued to Cheston et al.(Cheston) in further view of US Patent 6,865,728 issued to Branson et al.(Branson).

Hamilton in view of Kobayashi in further view of Matsunami in further view of Cheston does not explicitly teach as per claim 2,28,29 wherein the operating system copied to the storage device is altered based on one or more requirements associated with the diskless host computer.

Branson teaches updating an OS based on certain requirements of a computer(col.1, lines 35-45).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Hamilton in view of Kobayashi in further view of Matsunami in further view of Cheston to include updating an OS based on certain

requirements of a computer as taught by Branson in order to have the most recent/updated version of an OS.

One ordinary skill in the art would have been motivated to combine the teachings of Hamilton, Kobayashi, Matsunami, Cheston, and Branson in order to have the most recent/updated version of an OS.

Claims 6,25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,834,299 issued to Hamilton, II et al.(Hamilton) in view of US Publication 2001/0047460 issued to Kobayashi et al.(Kobayashi) in further view of US Patent 7,082,462 issued to Matsunami et al.(Matsunami) in further view of US Patent 6,167,494 issued to Cheston et al.(Cheston) in further view of US Patent 6,810,478 issued to Anand et al.(Anand).

Hamilton in view of Kobayashi in further view of Matsunami in further view of Cheston does not explicitly teach as per claims 6, 25, using DHCP protocol.

Anand teaches using DHCP protocol(col.43-50).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Hamilton in view of Kobayashi in further view of Matsunami in further view of Cheston to include using DHCP protocol as taught by Anand in order to improve flexibility for configuration of computers attached to a network(Anand, col.1, lines 43-49)..

One ordinary skill in the art would have been motivated to combine the teachings of Hamilton, Kobayashi, Matsunami, Cheston and Anand in order to improve flexibility for configuration of computers attached to a network(Anand, col.1, lines 43-49).

Claims 11,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,834,299 issued to Hamilton, II et al.(Hamilton) in view of US Publication 2001/0047460 issued to Kobayashi et al.(Kobayashi) in further view of US Patent 7,082,462 issued to Matsunami et al.(Matsunami) in further view of US Patent 6,167,494 issued to Cheston et al.(Cheston) in further view of US Patent 6,343,287 issued to Kumar et al.(Kumar).

Hamilton in view of Kobayashi in further view of Matsunami in further view of Cheston however does not teach as per claim 11,16, wherein the database uses the lightweight directory access protocol (LDAP).

Kumar teaches the use of LDAP for a database(Fig.3).

Therefore it would have been obvious at the time of the invention to one ordinary skilled in the art to modify Kobayashi in view of Hamilton in view of Kobayashi in further view of Matsunami in further view of Cheston to use LDAP for a database as taught by Kumar in order to comb through data to find a particular piece of information.

One ordinary skilled in the art at the time of the invention would have been motivated to combine the teachings of Hamilton , Kobayashi, Matsunami, Cheston and Kumar in order to provide a system to us a network protocol designed to work on TCP/IP stacks to extract information.

Response to Arguments

The Office withdraws all previous rejections due to applicant's amendments.

Applicant's arguments with respect to claims 2,5,6,11-16,22-29 have been considered but are moot in view of the new ground(s) of rejection.

The applicant also argues in substance, that Hamilton in view of Kobayashi in further view of Matsunami does not explicitly teach the configuration identifies the operating system associated with the PC (e.g.SOLARIS, LINUX, AIX, etc.), remarks page 11; the Office disagrees, Hamilton, claims 1,6, teaches identifying an at least one of Solaris OS, AIX OS, and Windows NT OS.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching of all or part of the claimed invention.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Backhean Tiv whose telephone number is (571) 272-5654. The examiner can normally be reached on M-F 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B. T.
Backhean Tiv
Examiner, Art Unit 2451
7/10/09

/John Follansbee/

Supervisory Patent Examiner, Art Unit 2451